

**RTCA Special Committee 186, Working Group 3**

**ADS-B 1090 MOPS, Revision A**

**Meeting #15**

**A Capability Code Bit For Flagging  
Ground Vehicles (Equipage Class B2)  
With Less than 70 Watt Transmit Power**

**Presented by James Maynard**

<b>SUMMARY</b>
<b>Mark Schneider proposed that we allow ground vehicles to transmit with only 10 W (rather than 70 W) of power if their transmissions were intended only to support ground surveillance applications on the airport surface. In discussions at meeting #15, members of WG 3 expressed a concern that airborne recipients of messages from such ground vehicles would need to know that such transmission were from low-power ground vehicles. This paper identifies a way to encode that information in aircraft operational status messages from such ground vehicles.</b>

In §2.2.3.2.7.2.3 and §A.1.4.10.3, modify Table 2.2.3.2.7.2.3-C and Table A.1.4.10.3-3, which describes the Surface Capability Class Code format in Version 1 transmitting subsystems, to assign “ME” bit 15 to indicate low-power (less than 70 W) transmitting subsystems:

<b>Msg Bit #</b>	41	42	43	44	45	46	47	48	49	50	51	52
<b>“ME” Bit #</b>	9	10	11	12	13	14	15	16	17	18	19	20
<b>Content</b>	<b>Service Level</b> MSBs = 0 0		<b>POA</b>	<b>CDTI</b>	<b>Service Level</b> LSBs = 0 0		<b>B2 Low</b>	<b>Reserved</b>				

**B2 Low:**

0 = Greater Than or equal to 70 W Transmit Power

1 = Less than 70 W Transmit Power

Propose adding a new §2.2.3.2.7.2.3.8 to describe the “low power” capability code, as follows:

**2.2.3.2.7.2.3.8 “B2 Low” CC Code Subfield in Surface Aircraft Operational Status Messages**

The “B2 Low” subfield of the CC Code subfield of the “surface” format Aircraft Operational Status Message (TYPE = 31, SUBTYPE = 1) is a one-bit Boolean flag that the ADS-B Transmitting Subsystem **shall** set to ONE (1) if the transmitting subsystem is a Non-Transponder-Based Transmitting Subsystem on a Ground Vehicle transmitting with less than 70 W of power. Otherwise, this bit **shall** be ZERO (0).

***Note:** Only Non-Transponder-Based transmitting subsystems on ground vehicles are permitted to transmit with less than 70 W of power. Setting the “B2 Low” CC code bit is intended to indicate to airborne participants that any transmission from that surface participant are at lower than the minimum 70 W power required of Class B2 participants by these MOPS.*

Propose a change in Table 2.2.8.2.10:

Byte 0 bit 3 of the Capability Code Subfield and in Subtype 1 of the Operational Status Message column.